

BBBBBBBBBBBB		AAAAAAA		SSSSSSSSSS		RRRRRRRRRR		TTTTTTTTTT		LLL
BBBBBBBBBBBB		AAAAAAA		SSSSSSSSSS		RRRRRRRRRR		TTTTTTTTTT		LLL
BBBBBBBBBBBB		AAAAAAA		SSSSSSSSSS		RRRRRRRRRR		TTTTTTTTTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA	SSS		RRR	RRR	TTT		LLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRRRRRRRRR		TTT		LLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRRRRRRRRR		TTT		LLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRRRRRRRRR		TTT		LLL
BBB	BBB	AAAAAAAAAAAA			SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAAAAAAAAAAA			SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAAAAAAAAAAA			SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA		SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA		SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA		SSS	RRR	RRR	TTT		LLL
BBB	BBB	AAA	AAA		SSS	RRR	RRR	TTT		LLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRR	RRR	TTT		LLLLLLLLLLLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRR	RRR	TTT		LLLLLLLLLLLL
BBBBBBBBBBBB		AAA	AAA	SSSSSSSS		RRR	RRR	TTT		LLLLLLLLLLLL

```
BBBBBBBBB      AAAAAA      SSSSSSSS      EEEEEEEEE      NN      NN      DDDDDDDD      GGGGGGGG      SSSSSSSS      BBBBBBBBB
BBBBBBBBB      AAAAAA      SSSSSSSS      EEEEEEEEE      NN      NN      DDDDDDDD      GGGGGGGG      SSSSSSSS      BBBBBBBBB
BB      BB      AA      AA      SS      EE      EE      DD      DD      GG      SS      SSSSSSS      BB      BB
BB      BB      AA      AA      SS      EE      EE      DD      DD      GG      SS      SSSSSSS      BB      BB
BB      BB      AA      AA      SS      EE      EE      DD      DD      GG      SS      SSSSSSS      BB      BB
BBBBBBBBB      AA      AA      SSSSSS      EEEEEEEEE      NN      NN      DD      DD      GG      SS      SSSSSS      BBBBBBBBB
BBBBBBBBB      AA      AA      SSSSSS      EEEEEEEEE      NN      NN      DD      DD      GG      SS      SSSSSS      BBBBBBBBB
BB      BB      AAAAAAAAAA      SS      EE      EE      DD      DD      GG      GG      SSSSSS      BB      BB
BB      BB      AAAAAAAAAA      SS      EE      EE      DD      DD      GG      GG      SSSSSS      BB      BB
BB      BB      AA      AA      SS      EE      EE      DD      DD      GG      GG      SSSSSS      BB      BB
BB      BB      AA      AA      SS      EE      EE      DD      DD      GG      GG      SSSSSS      BB      BB
BBBBBBBBB      AA      AA      SSSSSSSS      EEEEEEEEE      NN      NN      DDDDDDDD      GGGGGG      SSSSSSSS      BBBBBBBBB
BBBBBBBBB      AA      AA      SSSSSSSS      EEEEEEEEE      NN      NN      DDDDDDDD      GGGGGG      SSSSSSSS      BBBBBBBBB

LL      IIIIII      SSSSSSSS
LL      IIIIII      SSSSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SSSSSS
LL      II      SSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLL      IIIIII      SSSSSSSS
```

```
1 0001 0 MODULE BASSEND_GSB (
2 0002 0 IDENT = '1-002'
3 0003 0 ) =
4 0004 1 BEGIN
5 0005 1
6 0006 1 *****
7 0007 1 *
8 0008 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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25 0025 1 *
26 0026 1 *
27 0027 1 *****
28 0028 1
29 0029 1
30 0030 1
31 0031 1 ++
32 0032 1 FACILITY: BASIC-PLUS-2 Frame Support
33 0033 1
34 0034 1 ABSTRACT:
35 0035 1
36 0036 1 These routines set up and tear down frames for BASIC-PLUS-2.
37 0037 1 Frames are used for main routines, external functions,
38 0038 1 external subroutines, internal functions (both DEFs and DEF*s)
39 0039 1 internal subroutines (GOSUBs) and condition handlers.
40 0040 1
41 0041 1 ENVIRONMENT: VAX-11 user mode
42 0042 1
43 0043 1 AUTHOR: John Sauter, CREATION DATE: 10-Oct-78
44 0044 1
45 0045 1 MODIFIED BY:
46 0046 1
47 0047 1 1-001 - Original.
48 0048 1 1-002 - Change BAS$ to BSF$ prefix for BASIC stack frame. JBS 08-FEB-1979
49 0049 1 --
50 0050 1
51 0051 1 !<BLF/PAGE>
```



```
53 0052 1 |
54 0053 1 | SWITCHES:
55 0054 1 |
56 0055 1 |
57 0056 1 | SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
58 0057 1 |
59 0058 1 |
60 0059 1 | LINKAGES:
61 0060 1 |
62 0061 1 |
63 0062 1 | LINKAGE
64 0063 1 |     BASS$INIT_LINK = JSB (REGISTER = 0, REGISTER = 1, REGISTER = 2) : !
65 0064 1 |     GLOBAL (BSF$A_MAJOR_STG = 11, BSF$A_MINOR_STG = 10, BSF$A_TEMP_STG = 9) !
66 0065 1 |     NOPRESERVE (8, 7, 6, 5, 4, 3, 2, 1, 0);
67 0066 1 |
68 0067 1 |
69 0068 1 | TABLE OF CONTENTS:
70 0069 1 |
71 0070 1 |
72 0071 1 | FORWARD ROUTINE
73 0072 1 |     BASS$END_GSB_R8 : NOVALUE BASS$INIT_LINK;      ! end GOSUB
74 0073 1 |
75 0074 1 |
76 0075 1 | INCLUDE FILES:
77 0076 1 |
78 0077 1 |
79 0078 1 | REQUIRE 'RTLIN:RTLPSECT';                          ! macros for defing psects
80 0173 1 |
81 0174 1 | REQUIRE 'RTLIN:BASFRAME.REQ';                       ! Define frame structure
82 0377 1 |
83 0378 1 |
84 0379 1 | MACROS:
85 0380 1 |
86 0381 1 |     NONE
87 0382 1 |
88 0383 1 | EQUATED SYMBOLS:
89 0384 1 |
90 0385 1 |     NONE
91 0386 1 |
92 0387 1 | PSECTS:
93 0388 1 |
94 0389 1 | DECLARE_PSECTS (BAS);                               ! Declare psects for BASS$ facility
95 0390 1 |
96 0391 1 | OWN STORAGE:
97 0392 1 |
98 0393 1 |     NONE
99 0394 1 |
100 0395 1 | EXTERNAL REFERENCES:
101 0396 1 |
102 0397 1 |
103 0398 1 | EXTERNAL ROUTINE
104 0399 1 |     BASS$$STOP : NOVALUE;                          ! signals error
105 0400 1 |
106 0401 1 |
107 0402 1 | The following are the error codes used in this module.
108 0403 1 |
109 0404 1 |
```

BASSEND\_GSB  
1-002

N 6  
16-Sep-1984 00:22:52 VAX-11 Bliss-32 V4.0-742  
14-Sep-1984 11:54:56 [BASRTL.SRC]BASSENDGSB.B32;1

Page 3  
(2)

```
: 110      0405 1 EXTERNAL LITERAL
: 111      0406 1      BASSK_RETWITGOS : UNSIGNED (8);
: 112      0407 1
                                ! RETURN without GOSUB
```

```

114 0408 1 GLOBAL ROUTINE BASSEND_GSB_R8 ! end of GOSUB frame
115 0409 1 : NOVALUE BASSINIT_LINK =
116 0410 1
117 0411 1 ++
118 0412 1 FUNCTIONAL DESCRIPTION:
119 0413 1
120 0414 1 Check a BASIC-PLUS-2 RETURN statement to be sure that
121 0415 1 the return is being made from a GOSUB. This is needed
122 0416 1 since GOSUB has no lexical scope.
123 0417 1
124 0418 1 FORMAL PARAMETERS:
125 0419 1
126 0420 1 NONE
127 0421 1
128 0422 1 IMPLICIT INPUTS:
129 0423 1
130 0424 1 The frame, as set up by BASSINIT_GSB_R8.
131 0425 1
132 0426 1 IMPLICIT OUTPUTS:
133 0427 1
134 0428 1 NONE
135 0429 1
136 0430 1 ROUTINE VALUE:
137 0431 1
138 0432 1 NONE
139 0433 1
140 0434 1 COMPLETION CODES:
141 0435 1
142 0436 1 NONE
143 0437 1
144 0438 1 SIDE EFFECTS:
145 0439 1
146 0440 1 May signal an error
147 0441 1
148 0442 1 --
149 0443 1
150 0444 2 BEGIN
151 0445 2
152 0446 2 BUILTIN
153 0447 2 FP;
154 0448 2 SP;
155 0449 2
156 0450 2 REGISTER
157 0451 2 FMP : REF BLOCK [0, BYTE] FIELD (BSF$FCD);
158 0452 2
159 0453 2 +
160 0454 2 Give an error message if this RETURN does not correspond to
161 0455 2 a GOSUB.
162 0456 2 -
163 0457 2 FMP = .FP;
164 0458 2
165 0459 2 IF (.FMP [BSF$B_PROC_CODE] NEQ BSF$K_PROC_GOSB) THEN BASS$STOP (BAS$K_RETWITGOS);
166 0460 2
167 0461 2 +
168 0462 2 All is ok, return to the compiled code, which will issue a
169 0463 2 RET instruction to return to the caller of BASSINIT_GOSUB.
170 0464 2 +

```



BASSEND\_GSB  
1-002

C 7  
16-Sep-1984 00:22:52 VAX-11 Bliss-32 V4.0-742  
14-Sep-1984 11:54:56 [BASRTL.SRC]BASENDGSB.B32;1

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(3)

: 171 0465 1 END;

!of BASSEND\_GSB\_R8

.TITLE BASSEND\_GSB  
.IDENT \1-002\

.EXTRN BAS\$\$STOP, BAS\$K\_RETWITGOS

.PSECT \_BAS\$CODE,NOWRT, SHR, PIC,2

50 5D D0 00000 BASSEND\_GSB\_R8::  
06 E5 A0 91 00003  
0B 13 00007  
7E 00G 8F 9A 00009  
00 01 FB 0000D  
05 00014 1\$:

MOV FMP  
CMPB -27(FMP), #6  
BEQL 1\$  
MOVZBL #BAS\$K\_RETWITGOS, -(SP)  
CALLS #1, BAS\$\$STOP  
RSB

: 0457  
: 0459  
:  
:  
: 0465

: Routine Size: 21 bytes, Routine Base: \_BAS\$CODE + 0000

: 172 0466 1  
: 173 0467 1 END  
: 174 0468 1  
: 175 0469 0 ELUDOM

#### PSECT SUMMARY

Name	Bytes	Attributes
_BAS\$CODE	21	NOVEC,NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)

#### COMMAND QUALIFIERS

: BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS\$:BASENDGSB/OBJ=OBJ\$:BASENDGSB MSRC\$:BASENDGSB/UPDATE=(ENH\$:BASENDGSB)

: Size: 21 code + 0 data bytes  
: Run Time: 00:02.8  
: Elapsed Time: 00:06.8  
: Lines/CPU Min: 10158  
: Lexemes/CPU-Min: 29068  
: Memory Used: 29 pages  
: Compilation Complete



0022 AH-BT13A-SE  
VAX/VMS V4.0

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BASEDDFS  
LIS

BASERROR  
LIS

BASEDDDF  
LIS

BASEDIT  
LIS

BASEND  
LIS

BASEDUP  
LIS

BASEMULP  
LIS

BASEDGSB  
LIS

BASERTXT  
LIS